

ABSTRACT

[1082] Techniques are provided to support successive interference cancellation (SIC) receiver processing with selection diversity whereby each of N_T transmit antennas may be turned on or off. One symbol stream may be transmitted from each transmit antenna. A SIC receiver recovers the transmitted symbol streams in a specific order. Up to $N_T!$ orderings are evaluated. For each ordering, N_T post-detection SNRs are obtained for N_T transmit antennas and used to determine N_T data rates, where the data rate is zero if the post-detection SNR is worse than a minimum required SNR. An overall data rate is computed for each ordering based on the N_T data rates. The ordering with the highest overall data rate is selected for use. Up to N_T symbol streams are processed at the data rates for the selected ordering and transmitted. The transmitted symbol streams are recovered in accordance with the selected ordering.